

- ▶ Technique: thermal emission measurements, usually fairly continuous (many days per year), with profiles varying from 4/day to daily (typical) or longer (monthly) averages (for weaker emissions).
- Vertical resolution is typically of order 7 to 15 km, but retrieval grid is often set to about 2 km. Retrievals typically not good enough in lower stratosphere.
- Estimated accuracy is typically 5 to 15% (height & species-dependent).
- ▶ Questionnaire was sent out in February to various data providers of ground-based data (mostly NDSC sites).
- Information on sites, data, formats, etc...is tabulated (for main questions) in next 2 slides (work in progress, some iteration still needed).
- A few sample files have been provided (Ames format is typically used – NDSC database, some HDF(4) files, ENVISAT Cal-Val effort, Nilu database); other sample files could be made available in short time. Read routines exist. Dataset sizes (for one product) range up to 50 kB/day (HDF formatted files are significantly larger than Ames formatted files).
- Changing to HDF or a different HDF format: mixed responses (some “yes”, “yes if not too hard”, and some “not clear or no”...); there is some concern about this process...

Site	Lat., Lon., Altitude	Contact	Species	Altitude range	Avg. Time	Data time lag	Data Format	Data Center
Ny Alesund	79N,12E 15m	Kunzi	O₃, H₂O, ClO		0.3 to 24hr	Days- weeks	Ames, HDF4	NDSC, Nilu
Summit, Greenland (2003)	72N, 38W 3200m	Kunzi/ Notholt	O₃, ClO, HNO₃,N₂O H₂O₂,HCN NO₂		0.3 to 24 hr	Days- weeks	Ames, HDF4	NDSC, Nilu
Andenes, Norway	69N,16E 350m	Hartogh	H ₂ O	40-80km	1 day	1 month	Form. ASCII	
Kiruna	68N,20E 419m	Raffalski (?)	O ₃ , ClO, HNO ₃ ,N ₂ O					
Onsala	57N,12E	Winnberg (?)	H₂O,CO				Ames (?)	NDSC (?)
Bern	47N, 7E 550m	Kampfner	O₃ H ₂ O	15-75km 25-80km	2 to 4 weeks	1 day (?) 2 day (?)	Ames	NDSC
Payerne	47N, 7E 490m	Kampfner	O₃	20-60km	1 day	1 day (?)	Ames	NDSC
Jung- frauoch	47N, 7E 3500m	Kampfner	H ₂ O	25-80km			Ames	

Site	Lat., Lon., Altitude	Contact	Species	Altitude range (km)	Avg. Time	Data time lag	Data Format	Data Center
Alps (planned)	47N	de Zafra Muscari	O ₃ , ClO, HNO ₃ , N ₂ O CO, HCN		Day to month		Ames	
Floriac	45N, 0.5W 73m	deLaNoe	O₃ , H ₂ O				Ames	NDSC
Mauna Kea	19.8N 204E 4204m	Solomon	ClO		1 week			
Mauna Loa	19.5 N 204 E 3459 m	Parrish Nedoluha	O₃ H₂O	20-75km 40-80km	0.25 day ~ 1 week	~1 mth ~1 mth	Ames “	NDSC “
Merida/ Venezuela (on hold)	8N, 71W 4768m	Kunzi/ Notholt	O ₃ , H ₂ O ClO, HNO ₃ N ₂ O		0.1 to 24hr	Days - weeks	Ames	
Lauder	45 S 170 E 370 m	Parrish Nedoluha	O₃ H₂O	20-70km 40-80km	0.25 day ~ 1 week	~1 mth ~1 mth	Ames “	NDSC “
Scott Base	78 S 167 E 22 m	Solomon	ClO		1 week			

► **Summary of likely ground-based microwave datasets for Aura validation**

- **O₃**: range ~ 20 - 70 km, about 7 sites
- **H₂O**: range ~30 – 80 km, about 7 sites
- **ClO**: range ~ 20 – 40 km, 3 – 6 sites
- **HNO₃**: range ~ 20 -40 km, 1 – 4 sites
- **N₂O**: range TBD, 1 – 5 sites
- **CO, NO₂, HCN, H₂O₂**: 1 – 2 sites

► **What's next?** [per liaison role of facilitating data transfer for Aura teams]

- Complete tabulation and e-mails(a few other sites; Eureka, Fairbanks)
- We need to decide on format change requests (with Aura teams and AVDC).
When, who, where? [whole process requires time before launch, it is getting too late for large changes ...]
After this, obtain information on translation procedures (metadata file, etc...), for transmittal to potential data providers
[or decide if there are other (easier) means of providing “uniform” access to ground-based (microwave) data if risk to lose significantly less data].
- I will look into the data reading aspect (for some sample files received)
[within ~ 1-2 months]
- **Goals:** To disseminate information (questionnaire responses), Tables, and sample data files + access routines (for rehearsals) to Aura teams (need to decide on best mechanism, document, web-based, centrally tied to AVDC?)